

## CLAIMS

What is claimed is:

1. A direct memory access memory corruption detection system comprising:  
an access data store that stores access information associated with memory; and,  
a memory controller that employs the access information to determine whether a requested direct memory access is permitted and rejects the requested direct memory access if it is not permitted.
2. The direct memory access memory corruption detection system of claim 1, the access information comprising an access attribute.
3. The direct memory access memory corruption detection system of claim 2, the access attribute comprising one of read, read and write, and, write access.
4. The direct memory access memory corruption detection system of claim 1, the access information comprising a source identifier.
5. The direct memory access memory corruption detection system of claim 4, the source identifier being associated with a device.
6. The direct memory access memory corruption detection system of claim 1, the access data store comprising an access table, the access table comprising a source identifier field, a memory address field and an access attribute field.
7. The direct memory access memory corruption detection system of claim 1, the access information comprising at least one permitted memory address.
8. The direct memory access memory corruption detection system of claim 1, the access information comprising at least one disallowed memory address.

9. The direct memory access memory corruption detection system of claim 1, the request comprising a read action or a write action.
10. The direct memory access memory corruption detection system of claim 1, the request comprising a PCI Express bus transaction.
11. The direct memory access memory corruption detection system of claim 1, the memory controller coupled to a device through a PCI Express bus, the device providing the request.
12. The direct memory access memory corruption detection system of claim 1, the memory controller further providing error information, if the requested direct memory access is not permitted.
13. The direct memory access memory corruption detection system of claim 12, the error information comprising source information associated with the requested direct memory access.
14. A direct memory access memory corruption detection system comprising:
  - a memory controller that includes an access table store that stores access information associated with memory, the memory controller employs the access information to determine whether a requested direct memory access is permitted and rejects the requested direct memory access if it is not permitted; and,
  - a device driver that programs a device for a direct memory access operation, and, provides the access information to the memory controller *via* a direct memory access application interface.
15. The direct memory access memory corruption detection system of claim 14, the stored access information comprising a range of physical memory, a source identifier, and, an access attribute.

16. The direct memory access memory corruption detection system of claim 14, the request comprising a PCI Express bus transaction.
17. A method that facilitates detection of direct memory access memory corruption comprising:
  - receiving a request for a direct memory access transaction, the request comprising a source identifier, at least one memory address, and a transaction access attribute; and,
  - determining whether the request is permitted based, at least in part, stored access information and the request.
18. The method of claim 17, the stored access information comprising a source identifier, at least one memory address and an access attribute.
19. The method of claim 17, storing access information in a access data store, the access information comprising a source identifier, at least one memory address and an access attribute.
20. A computer readable medium having stored thereon computer executable instructions for carrying out the method of claim 17.
21. A data packet transmitted between two or more computer components that facilitates detection of direct memory access memory corruption, the data packet comprising:
  - a data field comprising a corrected platform error event, the corrected platform error event being based, at least in part, upon a determination that a requested direct memory access is not permitted, the determination being based, at least in part, upon access information stored in an access table and the requested direct memory access.
22. A direct memory access memory corruption detection system comprising:
  - means for storing access information associated with memory;
  - means for receiving a request for a direct memory access;

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means for determining whether a requested direct memory access is permitted based, at least in part, upon the stored access information and the request; and,  
means for rejecting the requested direct memory access if it is not permitted.